What Is Claimed Is:

1. An energy absorbing plunging constant velocity joint comprising:

an outer joint part having an inner bore, a plurality of outer ball tracks, a normal axial range and an extended axial range;

an inner joint part having a convex guiding face, and a plurality of inner ball tracks;

a plurality of torque transmitting balls each guided in a corresponding pair of said outer and inner ball tracks;

a ball cage having an outer spherical face, an inner concave guiding face and a plurality of cage windows each accommodating one of said balls, the outer spherical face guided in contact by the inner bore of the outer joint part, and the inner concave guiding face guided in contact by the convex guiding face of the inner joint part, center of curvature of the outer spherical face and center of curvature of the inner concave guiding face being offset from the center of the cage window in the axial direction to opposite sides holding said balls in a constant velocity plane; and

one or more energy absorption surfaces distal to the normal axial range and located in the extended axial range upon said outer joint part, wherein the energy absorption surface on the outer joint part interferes with at least one of the plurality of torque transmitting balls when said joint is operated beyond said normal axial range in the extended axial range.

2. The joint according to claim 1, wherein one of the energy absorption surfaces is a circlip.

3. The joint according to claim 2, wherein the circlip is made from a deformable material.

4. The joint according to claim 3, wherein the deformable material is metal.

5. The joint according to claim 3, wherein the deformable material is plastic.

6. The joint according to claim 2, wherein the circlip is a ring.

7. The joint according to claim 2, wherein the outer joint part further comprises a cylindrical open end located adjacent the extended axial range and distal to the normal axial range of the outer joint part and a grease cover sealingly attached to the cylindrical open end.

8. The joint according to claim 7, wherein the grease cover is displaceable when the joint has axial travel beyond the extended axial range.

9. An energy absorbing plunging constant velocity joint comprising:

an outer joint part having an inner bore, a plurality of outer ball tracks, a normal axial range and an extended axial range;

an inner joint part having a convex guiding face, and a plurality of inner ball tracks;

a plurality of torque transmitting balls each guided in a corresponding pair of said outer and inner ball tracks;

a ball cage having an outer spherical face, an inner concave guiding face and a plurality of cage windows each accommodating one of said balls, the outer spherical face guided in contact by the inner bore of the outer joint part, and the inner concave guiding face guided in contact by the convex guiding face of the inner joint part, center of curvature of the outer spherical face and center of curvature of the inner concave guiding face being offset from the center of the cage window in the axial direction to opposite sides holding said balls in a constant velocity plane; and

one or more energy absorption surfaces distal to said normal axial range and located in the extended axial range upon said outer joint part, wherein the energy absorption surface on the outer joint part interferes with said ball cage or with at least one of the plurality of torque transmitting balls when said joint is operated beyond the normal axial range in the extended axial range.

10. The joint according to claim 9, wherein one of the energy absorption surfaces is a bore surface.

11. The joint according to claim 10, wherein the bore surface has one or more inclination, a stepped inclination or a variable inclination.

12. The joint according to claim 10, wherein the bore surface is made from the same material piece as the outer joint part.

13. The joint according to claim 9, wherein one of the energy absorption surfaces is a track surface.

14. The joint according to claim 13, wherein the track surface has one or more tapers or a step taper.

15. The joint according to claim 14, wherein the track surface is made from the same material piece as the outer joint part.

16. The joint according to claim 9, wherein the outer joint part further comprises a cylindrical open end located adjacent the extended axial range and distal to the normal axial range of the outer joint part and a grease cover sealingly attached to the cylindrical open end.

17. The joint according to claim 16, wherein the grease cover is displaceable when the joint has axial travel beyond the extended axial range.

18. The joint according to claim 1 and 9 having more than one energy absorption surface.

19. A propeller shaft assembly for a vehicle having an energy absorbing plunging constant velocity joint comprising:

an outer joint part having an inner bore, a plurality of outer ball tracks, a normal axial range and an extended axial range;

an inner joint part having a convex guiding face, and a plurality of inner ball tracks;

a plurality of torque transmitting balls each guided in a corresponding pair of said outer and inner ball tracks;

a ball cage having an outer spherical face, an inner concave guiding face and a plurality of cage windows each accommodating one of said balls, the outer spherical face guided in contact by the inner bore of the

outer joint part, and the inner concave guiding face guided in contact by the convex guiding face of the inner joint part, center of curvature of the outer spherical face and center of curvature of the inner concave guiding face being offset from the center of the cage window in the axial direction to opposite sides holding said balls in a constant velocity plane;

one or more energy absorption surfaces distal to said normal axial range and located in the extended axial range upon said outer joint part, wherein the energy absorption surface on the outer joint part interferes with said ball cage or with at least one of the plurality of torque transmitting balls when said joint is operated beyond the normal axial range in the extended axial range;

a hollow shaft connected to said outer joint part; and

a connecting shaft connected to said inner joint part,

wherein the hollow shaft contains the connecting shaft, the inner joint part, the ball cage and the torque transmitting balls when said joint is operated beyond the extended axial range.

20. The joint according to claim 19, wherein the outer joint part further comprises a cylindrical open end located adjacent the extended axial range and distal to the normal axial range of the outer joint part and a grease cover sealingly attached to the cylindrical open end, wherein the grease cover is displaceable when the joint has axial travel beyond the extended axial range.